Amendments to the Specification:

Please replace paragraph [0020] with the following rewritten paragraph:

[0020]   The corona charge generation ~~by the electrode 200~~ is dependent on the electric field in the space between the charging device and the charge retentive surface. This is done in two steps. First one determines the electrical potential in space and then determining the spatial variation of the field. Determining the potential at points throughout the region between a charge-producing array in, for example, a corotron, and the photoreceptor of a marking machine involves solving the Laplace equation

$$\nabla^2 V(x,\, y) = \left(\frac{\partial}{\partial x^2} + \frac{\partial}{\partial y^2} \right) V(x,\, y) = 0$$

with this region, subject to appropriate boundary conditions. The boundary conditions in the calculations performed are as follows: 1) the corotron ~~electrode elements 200 and 250~~ ~~were~~was assumed to be at one potential; 2) the charge ~~retentive 20~~retentive, top surface was assumed to be at another potential; and 3) the ends of the region were set up to display a reflection of the potential of the region. Given these boundary values, Laplace's equation was numerically solved within this domain by a number of methods, using the Finite Difference Method. In this method, the domain in which the solution is desired is divided into a lattice of cells. We refer to the corners of the cells as mesh points. Laplace's equation was approximated by a discrete version, which is valid at the mesh points. Let the (i,j) index a particular mesh point in this two dimensional domain. Then,

$$\frac{\partial^2 V}{\partial x^2} \approx \frac{V_{i+1,j} + V_{i-1,j} - 2V_{i,j}}{h^2}$$

and

$$\frac{\partial^2 V}{\partial y^2} \approx \frac{V_{i,j+1} + V_{i,j-1} - 2V_{i,j}}{h^2}$$

where h is the distance between mesh points. Thus, for each pair of indices (i,j) (that is, for each mesh point), we have

$$V_{i+1,j} + V_{i-1,j} - 4V_{i,j} + V_{i,j+1} + V_{i,j-1} = 0.$$

If i = 1, 2, …. N, and j = 1, 2, …. M, then there are NM mesh points. If a mesh point (i,j) lies on the boundary, we use the boundary condition to fix V_{ij} for that mesh point. Thus, the only unknowns in the above equations correspond to the "interior" mesh points. The above equation is just a set of linear equations and we used the Successive Over Relaxation method to solve the equations to get the values of V_{ij} for all interior mesh points. (Other standard methods such as the Jacobi and the Gauss-Seidel methods can also be used.) Once the potential is known, the electric field was obtained by calculating the first derivative. The Finite Difference Method is only one method of solving this problem. Other methods include the Finite Element Method and the Monte-Carlo based methods.